

a transformer having a primary side connected to said reference primary circuit and having a secondary side;

first and second rectifiers in synchronous connection at said secondary side, said first and second rectifiers each having at least three leads, one of said three leads being a control

5 lead;

first and second clamping transistors, said first clamping transistor being connected between said control lead of said first rectifier and said secondary side, said second clamping transistor being connected between said control lead of said second rectifier and said secondary side;

10 a first damping resistor connected to a control lead of said first clamping transistor and a second damping resistor connected to a control lead of said second clamping transistor; a load connected to a same winding of said secondary side as said first and second clamping transistors; and

a fixed voltage source connected to said first and second damping resistors to supply a fixed
15 voltage to said control leads of said first and second transistors.

2. (Original) A rectifier as claimed in claim 1, wherein said secondary of said transformer has first and second leads, said first rectifier having first and second leads connected in series to said first lead of said secondary and said control lead connected to said
20 second lead of said secondary, said second rectifier having first and second leads across said first and second leads of said secondary and said control lead connected to said first lead of said secondary.

3. (Previously Amended) A rectifier as claimed in claim 1, wherein said first and second rectifiers and said first and second clamping transistors are field effect transistors and said control leads are gate leads.

Claim 4 (Cancelled).

5

5. (Previously Amended) A rectifier as claimed in claim 1, further comprising:
an output;

a first filter element connected between said first rectifier and said output; and

a second filter element connected between said output and ground.

10

6. (Original) A rectifier as claimed in claim 5, wherein said first filter element includes an inductance and said second filter element includes a capacitance.

7. (Original) A rectifier as claimed in claim 5, further comprising:
a third filter element connected between said second rectifier and ground.

15

8. (Original) A rectifier as claimed in claim 7, wherein said first and third filter elements include an inductance.

9. (Original) A rectifier as claimed in claim 1, wherein said transformer is connected with its windings at a same polarity.

10. (Original) A rectifier as claimed in claim 1, wherein said transformer is connected with its windings at opposite polarity.

11. (Previously Amended) A self-driven synchronous rectifier, comprising:

a transformer having a primary and seconding winding;

an input for an input voltage connected to said primary winding;

a pair of rectifiers connected in a synchronous connection,

5 a first rectifier of said pair of rectifiers including a source drain connection in series
with a first lead of said secondary winding and a gate connected to a second
lead of said secondary winding;

DI a second rectifier of said pair of rectifiers having a source and drain leads connected
across said first and second leads of said secondary winding and a gate
10 connected to said first lead of said secondary winding;

a first transistor connected between said gate of said first rectifier and said second lead of said
secondary winding;

a first damping resistor connected to a control lead of said first transistor;

a second transistor connected between said gate of said second rectifier and said first lead of
15 said secondary winding;

a second damping resistor connected to a control lead of said second transistor;

a load connected to said secondary winding of said transformer; and

a voltage source connected to said first and second damping resistors to supply a voltage
through said damping resistors to control leads of said first and second transistors.

20

12. (Original) A synchronous rectifier as claimed in claim 11, further comprising:

a filter connected across said secondary winding of said transformer.

13. (Original) A synchronous rectifier as claimed in Claim 11, further comprising:
a resonate snubber connected across said primary winding of said transformer, said resonate
snubber including a filter.

14. (Original) A synchronous rectifier as claimed in Claim 11, further comprising:
5 a switch connected at said primary winding of said transformer.

D/ 15. (Previously Amended) A synchronous rectifier as claimed in Claim 11, wherein
said first and second transistors are field effect transistors and said control leads are gate leads.

16. (Previously Added) A rectifier as claimed in claim 2, wherein said control lead of
10 said first rectifier is connected through said first clamping transistor to said second lead of said
secondary;

said first lead of said second rectifier is connected to said first lead of said secondary
through said first rectifier; and

said control lead of said second rectifier connected through said second clamping
15 transistor to said first lead of said secondary.
